

**AMENDMENT UNDER 37 C.F.R. § 1.111  
U.S. Application No. 10/812,064 (Q80748)**

**REMARKS**

Upon entry of this amendment, Claims 1, 5 and 7-14 will be pending in this application.

Applicants amend Claims 1 and 13. No new matter is added.

Applicants thank Examiner Heitbrink for the courtesies extended to Applicants' representative during the personal interview conducted on June 9, 2008. Applicants separate record of the substance of that interview is incorporated into the following remarks.

**I. Rejection Under 35 U.S.C. § 112, Second Paragraph**

Claims 1, 5 and 7-13 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. The Office Action asserts that claim 1, line 12 recites “process parameters” which is allegedly indefinite because line 7 defines “a process parameter.” Further, the Office Action asserts that the recitation “optimize” claim 1, line 12 is unclear because the claim is directed to obtaining a resin “product design” parameter, which is different from a process parameter. Claim 13 is allegedly indefinite for referring to the resin product obtained in claim 1, whereas claim 1 refers only to a resin product design parameter.

Applicants amend instant claims 1 and 13. Instant claim 1 is amended to recite “wherein product design process parameters are optimized...”. Thus, it will be clear that product design parameters are optimized.

Claim 13 is amended to recite “a method for producing a resin product comprising at least a step of implementing the resin product design parameters obtained from the method according to claim 1 in an injection molding process to obtain the resin product.”

For at least the foregoing reasons, the instant claims are not indefinite. Reconsideration and withdrawal of the rejection are earnestly solicited.

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**II. Rejection Under 35 U.S.C. § 103(a)**

(3) Claims 1, 5 and 7-14 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Rebello et al (U.S. Patent Application Publication No. 2003/0149498) in view of Wilson (U.S. Patent No. 6,558,605), taken together with either Yu et al (U.S. Patent No. 6,096,088), or Friedl et al (U.S. Patent No. 6,816,820) in view of Norton (U.S. Patent No. 6,454,973). The Office Action cites Rebello et al for optimizing clamping force injection molding tools. Wilson is cited for teaching the timing sequence of injection molding operations by convention mold filling analysis, software and computer implementation. Yu is cited for determining optimum gate locations through simulation analyses designed to predict the location of weld lines and air traps. Such analyses are also used to determine mold pressure limits. Friedl et al is cited for determining gate locations and modeling materials of different composition, simultaneously or sequentially, by way of numerical analysis and computerized design. Norton is cited for generally disclosing solutions to conventional problems related to fill-balancing and clamp tonnage, and its teaching of well-known problems overcome by time sequencing valve gates in combination with optimized clamp tonnage.

Applicants traverse the rejection and amend claim 1.

Instant claim 1, from which all claims depend, is amended to recite “*where at least one of the valve gates is selected as a timing regulation gate, and at least one valve gate is kept open at any given time during the filling stage; and wherein the timing regulation gate is restricted by the action of other gates.*” (see specification at paragraphs [0042]-[0054] for a full discussion). During molding, when all the gates are simultaneously closed, runners and valve gates are subjected to abnormally high pressure. Thus, keeping at least one valve gate open during molding reduces mold clamping force. Moreover, the at least one gate that is kept opened during

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the molding process may be a *timing regulation gate*. Such a *timing regulation gate* can be contrasted to an ordinary valve gate which can be arbitrarily manipulated; i.e., an arbitrary control gate. This combination of features is not taught or suggested by any combination of the references of record.

Rather, the references merely disclose simulation analyses designed to predict the location of weld lines and air traps, time sequencing valve gates in combination with optimized clamp tonnage, and the like. Nowhere do the references specifically disclose the combination of “where at least one of the valve gates is selected as a timing regulation gate, and at least one valve gate is kept open at any given time during the filling stage” such that the timing regulation gate is defined as a gate that is restricted by the action of other gates. Accordingly, none of the references suggest or recognize these combined features as result-effective variables, nor the criticality or advantages of the claimed combination, i.e., reduced mold clamping force (see specification at paragraph [0054]).

For at least the foregoing reasons, instant claim 1, and all of Claims 5 and 7-14 depending therefrom, are patentable. Reconsideration and withdrawal of the rejection are earnestly solicited.

**III. Conclusion**

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

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The U.S. Patent and Trademark Office is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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